REMARKS

Claims 1-22 and 24-163 are presently pending in this application. Claims 44-67, 71-150, and 155-163 have been previously withdrawn from consideration.

Claim Rejections:

The pending claims have been rejected as obvious for the reasons given in the previous office action. The Applicant maintains the traverse of the rejection of Claims 1-43, 68-70 and 151-154 under 35 U.S.C. §103(a) as being unpatentable over Oletta (GB 890,614, hereinafter Oletta '614), supported by the arguments given in the Applicant's response dated 6/12/07, incorporated herein by reference.

In response to Applicant's previous arguments and amendments, the Examiner writes that "the Examiner does not agree with applicant's arguments that claims are amended to limit the claimed invention to reverse phase chromatography." The pending claims have been amended to be limited to a non-polar stationary phase and a polar mobile phase. This is by definition reverse phase chromatography.

> Liquid-solid chromatography utilizes a solid stationary phase, and the major mechanism of retention is adsorption. Popular adsorbents are silica and alumina, which both retain polar compounds. If a polar mobile phase is used, the solutes are rapidly swept from the bed. Thus the preferred mobile phase is a nonpolar or slightly polar solvent. The American chemist Lloyd R. Snyder arranged solvents in an eluotropic strength scale based on the chromatographic behaviour of selected solutes on silica. Normal-phase chromatography involves a polar stationary phase and a less polar mobile phase…A nonpolar molecule can be bonded to the solid and a polar mobile phase used. This method is termed reverse-phase liquid chromatography. http://www.britannica.com/eb/article-80518/chromatography

The Oletta '614 reference discloses the use of normal phase chromatography, utilizing benzene (non-polar) as the mobile phase and silica (polar) stationary phase, the opposite of what is claimed by the Applicant. The Examiner further states that Oletta '614 discloses the use of silica, as does Applicant. However, Oletta '614 utilizes conventional silica, which is polar, and the Applicant's use (and claim) a non-polar silica, for example silica to which carbon chains have been attached. This is supported in the specification at paragraph [0031] "The stationary phase media 13 is preferably hydrophobic material. This stationary phase media 13 can include

silica…" and in the Examples, e.g. Example 1, paragraph [0091] which utilizes silica with C8 ligands attached. Natural silica, used in Oletta '614, is polar. Hydrophobic (water hating, or non-polar) silica is silica to which a non-polar ligand has been bound, for example a carbon chain, is used by the Applicant.

As was discussed in the Applicant's previous response, a *prima facie* case for obviousness has not been made, as the components of the Applicant's claimed invention have not been disclosed by the Examiner. It is therefore respectfully requested that the Examiner withdraw the rejection of Claims 1-43, 68-70 and 151-154 under 35 U.S.C. §103(a) as being unpatentable over Oletta GB 890,614.

The rejection of Claims 1-22, 24-43, 68-70 and 151-154 under 35 U.S.C. §112, 1st paragraph as being unsupported by the specification is traversed. The Examiner writes that the Applicant's amendment to include the terms 'polar' and 'non-polar' introduces new matter, since the Examiner argues these terms are not used in the specification. The Examiner acknowledges the Applicant's reference to paragraph [0031], but states such paragraph does not exist. Paragraph [0031] of the Applicant's specification is as follows:

> [0031] The stationary phase media 13 is preferably hydrophobic material. This stationary phase media 13 can include silica gels, titanium oxide, zirconium oxide and polymer particles. The particles can be either porous or nonporous with a particle size that can preferably range from about 1 micrometer (39.4 microinches) to about 200 micrometers (7,874 microinches) and more preferably range from about 20 micrometers (787.4 microinches) to about 50 micrometers (1,968.5 microinches). The porous particles preferably have pores in the range of about 30 Angstroms (0.12 microinches) to about 1,000 Angstroms (3.94 microinches) with a surface area that preferably ranges from about 100 square meters/gram (3,407 square yards/ounce) to about 1,000 square meters/gram (33,488 square yard/ounce). The stationary phase media 13 may preferably include phenyl groups, cyano groups, or carbon chains (linear or branched) having two (2) to thirty (30) carbon atoms attached thereto. Reverse phase preparative chromatography operates on the basis of hydrophilicity and lipophilicity with a nonpolar stationary phase and a polar mobile phase. The greater the hydrophobic nature of the attached phenyl group, cyano group or carbon chain, the greater the tendency of the preparative chromatography column 10 to retain hydrophobic components. Thus, hydrophilic compounds elute more

> quickly than do hydrophobic compounds with the most polar hydrophilic components eluting first. (Emphasis added.)

Therefore the terms 'polar' and 'non-polar', as well as the definition of reverse phase chromatography as the use of a non-polar stationary phase and a polar mobile phase is clearly supported by the specification. As such, the Examiner's statement that the Applicant's amendments necessitated the new grounds of rejection is incorrect, and the final rejection improper.

Therefore, withdrawal of the rejection of Claims 1-22, 24-43, 68-70 and 151-154 under 35 U.S.C. §112, 1st paragraph, is respectfully requested.

Throughout the final rejection, the Examiner has merely pointed to the lack of support for the amendment to limit the claims to reverse phase chromatography, and has stated that the claims are therefore not in fact limited to reverse phase chromatography. As is has clearly been shown that the specification does in fact support this amendment, and further that limitation to a polar mobile phase is by definition reverse phase chromatography, the Applicant has overcome the rejections based on the Oletta '614 reference which utilizes normal phase chromatography.

If any issue regarding the allowability of any of the pending claims in the present application could be readily resolved, or if other action could be taken to further advance this application, or if the Examiner should have any questions regarding the present amendment, it is respectfully requested that the Examiner please telephone Applicant's undersigned attorney in this regard.

Respectfully submitted,
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